

from it principally in the uniform and dark coloring of the antennæ and femora, the hirsuteness of the whole body, the punctate abdomen and the slender forceps.

50. *Labia arcuata*. Head black, slightly tumid, very minutely rugulose, covered with very short pile, palpi dark brown; antennæ with eleven joints, pilose, blackish brown, the terminal half of the apical joint pale. Pronotum black, the sides scarcely tinged with testaceous, quadrate, scarcely longer than broad, scarcely narrowing posteriorly, the sides straight, the posterior angle well marked, hind edge gently convex; the front half slightly tumid, with a median impressed line, the rest flat. Tegmina glistening black, covered with short pile, more than twice as long as the pronotum, each as broad as the pronotum, the apex roundly excised; exposed part of wings slender, almost pointed, black, nearly as long as the pronotum. Legs dark brown, the apical half of tibiæ and tarsi growing lighter. Abdomen dark mahogany brown above, blackish at the sides, castaneous below, covered wholly with short pile. Pygidium very broad, bifid, with large teeth. Forceps about a third as long as the abdomen, strongly arcuate, trigono-arcuate on basal, straighter half; beyond flattened cylindrical, bent inward, nearly straight, and the apex pointed and not incurved; the inner surface is nearly flat, with an upper and lower edge; the upper edge is smooth, with a minute tooth near the base; the lower edge has a larger triangular laminate tooth slightly further from the base, and directed a little downward. Length of body, 6.4 mm.; of antennæ, 4.1 mm.; of tegmina and wings, 3 mm.; of hind femora, 1.3 mm.; of forceps, 1.6 mm. 1 ♂. Vassouras, one hundred miles north of Rio, Brazil, taken March 5. (B. P. Mann.)

A CENTURY OF ORTHOPTERA. DECADE VI.—FORFICULARIÆ
(N. AMERICAN). BY SAMUEL H. SCUDDER.

51. *Neolobophora volsella*. Head smooth, glistening, vinous red, the eyes piceous, and the front strongly obscured with blackish, sutures of the head deeply impressed, and either hemisphere of the occiput intumescent; antennæ blackish fuscous, gradually growing a little paler toward the tip, the basal joint often tinged with reddish; thorax and abdomen piceous, the sides of the prothorax dull luteous. Prothorax smooth, with very delicate and faint infrequent transverse furrows, and a very slight median sulcation.

Tegmina slightly longer than broad, the hinder edge cut obliquely in a gentle curve, so that when at rest the combined hinder edges form a slight concave curve. Wings wanting. Legs luteous, the apical half of the fore and middle femora and the apical third of the hind femora black, or blackish fuscous. Abdomen very distantly and very minutely punctulate, each pit giving rise to a minute short hair. Forceps long and very slender, those of the female nearly as long as the abdomen, attingent, subquadrate, straight until close to the tip and then curved slightly inward, unarmed, vinous red, slightly obscured at the tip; those of the male nearly twice as long as the abdomen, the basal half subquadrate, very slightly bowed in opposite directions, the inner edges delicately toothed or granulate, with a slight but distinct tooth in the middle, beyond which the arms of the forceps are subcylindrical, subattingent, and have the curve of the female; the basal half is mostly vinous red, more or less obscured, especially toward the tip, the apical half blackish. Length of body excluding forceps, 12-13 mm.; of antennæ, 8.5 mm.; of tegmina, 2.5 mm.; of hind femora, 3.5 mm.; of forceps, ♂, 10.5 mm., ♀, 5.25 mm. Described from 4 ♂, 3 ♀, taken by Sumichrast (No. 6) in the mountains about Orizaba, Mexico, under bark in the month of January. Smithsonian Institution.

In describing this genus I stated that the terminal segment of the abdomen was alike in both sexes; this is not strictly true, that of the female narrowing much more rapidly than that of the male. I also compared it with the old world *Lobophora*, but failed at the time, for want of proper material, to see its much closer affinity to *Nannopygia*.

52. *Thermastris Chontalia*. Head black, the mouth parts luteo-fuscous, obscured with blackish. Antennæ with more than thirty-four joints, the first and third joints stouter and shorter than in *T. brasiliensis*, the first twelve and thirteen joints blackish fuscous, beyond growing paler fuscous. Prothorax and tegmina blackish brown, with very distant, short, stout, tapering hairs; pronotum nearly flat, with a very obscure median longitudinal depression; tegmina sinusously and obliquely docked at tip, twice as long as the prothorax; the projecting portion of the wings, as in the other species of the genus, is covered with hairs like those on the tegmina, and squarely docked at extreme tip, but unlike the other species is of the same color as the tegmina, with very slightly paler inner edge. Legs dirty yellowish brown, the femora covered sparsely with spinous hairs, the tibiæ and tarsi blackish above. Abdomen dull castaneous, rugulose, the last

dorsal segment with a broad median depression, and the hinder edge scarcely produced angularly over each of the arms of the forceps. Forceps flattened triquetral, moderately stout, as long as the tegmina, straight nearly to the tip, then rather sharply incurved to a bluntly pointed tip; inner double edge irregularly but rather frequently toothed, larger at base than beyond, but furnished with a not very conspicuous broad triangular laminate tooth just beyond the middle. Length of body, 18.5 mm.; of antennæ, 15 mm.; of tegmina and folded wings, 7.75 mm.; of hind femora, 4 mm.; of forceps, 6.25 mm. 1 ♀. Chontales, Nicaragua.

This species differs distinctly from *T. brasiliensis* and *T. Saussurei* in having longer forceps and nearly uniformly dark wings, of the color of the tegmina.

53. Spongophora forfex. Dark castaneous brown, the mouth parts scarcely paler, the antennæ castaneous, becoming infuscated beyond the base. Legs luteo-castaneous, the front of the femora blackish fuscous; exposed part of wings pale mahogany brown; tip of the tegmina obliquely docked, slightly and roundly excised, and next the inner edge strongly produced; posterior edge of the abdominal segments with a series of closely crowded minute notches; terminal segment rugulose, with granulations, which are absent from the two stripes down the middle, grow larger and more abundant posteriorly, and bead the posterior edge. Forceps reddish, nearly as long as the body, depressed cylindrical, very slender, nearly straight, slightly incurved on the basal half, beyond straight and then incurved at the tip, the extremity of which is pointed; the inner edge is slightly rugulose, and just before the middle has a slight tooth. Length of body, 22 mm.; of tegmina and wings, 9.5 mm.; of hind femora, 4.25 mm.; of forceps, 19 mm. 1 ♂ from the collection of Dr. Schaum; the locality is unknown, but is doubtless some part of tropical or subtropical America. It belongs to the group of *S. parallela* (Westw.) and *S. proluxa* (*Psalid. parallela* Dohrn nec Westw.), but differs from them in coloration, and in the structure of the forceps.

54. Ancistrogaster gulosa. Head very dark castaneous brown with very thin short pile on the occiput; antennæ 12-jointed, pale brown, the basal joint darker; palpi pale brown. Pronotum dark brown, the sides dull luteous, slightly broader than long (♂), or of equal length and breadth (♀), the sides slightly convex, slightly narrowing posteriorly, the posterior margin well rounded; broadly depressed just behind the centre with a faintly impressed median line

and two short longitudinal lines on either side in front; covered throughout with thin pile, as also are the tegmina and wings; tegmina uniform dark brown, squarely docked at the tip, about twice as long as the pronotum, the wings dull luteous. Femora rather light brown, covered sparsely with short pile, the tip paler; tibiæ dirty luteous, tarsi pale yellowish. Abdomen dark brown, finely and sparsely punctulate, the punctulations giving rise to short, fine golden hairs, which also cover the forceps; sides of the fourth and fifth abdominal segments produced posteriorly to sharp angles, but inconspicuous; the abdomen itself broadens and thickens regularly on the first three or four segments, and then narrows more rapidly, and the sides of the last segment are parallel. Forceps of female straight, simple, attingent, curving inward at tip and pointed, unarmed excepting a slight denticulation on the inner edge. Those of the male resemble in their general direction those of *A. arthritica* Scudd., but are more strongly bent near the base; at the extreme base the inner edge bears a prominent, rather stout pointed triangular tooth, and the lower inner edge beyond it is rudely denticulate; the forceps are not depressed as in *A. arthritica*, but trigono-cylindrical, the inner surface flat; but at the tip, which does not diminish in size, they become flattened, and terminate in a nearly straight edge, those of the opposite arms meeting; either end of the blade developing a pointed tooth, the preapical one small and bifid, the apical rather long and incurved. Length of body, 10.5–13 mm; of antennæ, 11 mm.; of tegmina and wings, 4.5 mm.; of hind femora, 4 mm.; of forceps, ♂, 4.5 mm., ♀, 3.1 mm. Described from 5 ♂, 1 ♀, taken by Sumichrast (No. 4) in Puebla, Mexico (terra frigida) in January. Smithsonian Institution.

55. Forficula vara. Head dark mahogany brown, palpi and antennæ dark luteous, the latter 11–12 jointed; head smooth, full, devoid of impressions. Pronotum subquadrate, scarcely as long as broad, dark reddish brown, the sides lutescent, the front border straight, the sides straight and parallel, the posterior angles broadly rounded; the surface smooth, with a scarcely apparent median sulcation. Tegmina dark brown with a reddish tinge, a little longer than the pronotum, docked with a slight obliquity; wings wanting. Legs luteous, the outer edge of the tibiæ dusky. Abdomen dark mahogany brown, stout and plump, very slightly larger in the middle than at either extremity in the male, enlarging slightly to the fifth dorsal segment, and then suddenly tapering in the female; surface nearly

smooth beneath, thinly pilose; last dorsal segment squarely docked in the ♂, the forceps strongly bowed and widely distant; at base these are flattened, directed outward and upward; then, a little before the end of the basal third, they are turned inward and curve downward and again upward, becoming flattened trigonate, and tapering to a blunt point; the inner edge is rather rudely but minutely denticulate near the base, beyond more or less crenulate; the forceps of the ♀ are simple cylindrico-trigonate, attingent, straight, slightly incurved next the pointed tip, minutely denticulate along the inner edge. Length of body, ♂, 8-9.75 mm., ♀, 7-8 mm.; of antennæ, 6 mm.; of tegmina, 1.5-2 mm.; of hind femora, 2.1-2.8 mm.; of forceps, ♂, 2.9-3.4 mm.; ♀, 2-2.6 mm. Described from 9 ♂, 8 ♀, collected by Sumichrast (No. 2) at Puebla, Mexico (terra frigida), in January. Smithsonian Institution.

This species approaches more closely to the European *Forf. bipunctata* Fabr. than any known to me, but it still preserves the characteristic features of the true *Forficulæ* and not of the genus *Anechura*, which I shall propose in another paper for the European species mentioned.

56. *Forficula tolteca*. Head dull castaneous, smooth, but sparsely pilose, slightly tumid, with a transverse brace-shaped slight sulcation between the antennæ; palpi dirty luteous; antennæ with the basal joint dirty luteous, beyond light brown, the tenth pale, excepting at the extremities (beyond broken). Pronotum rufoluteous, dull luteous at the sides, scarcely broader than long, well rounded posteriorly, with a slightly impressed median line on the anterior, and a slight carina on the posterior half, the whole flat, sparsely pilose. Tegmina dark brown, twice as long as the pronotum, squarely docked at the extremity, sparsely pilose; the exposed part of the wings dull luteous, more or less infuscated on the borders, sparsely pilose, as long as the pronotum. Legs luteous, sparsely pilose, the femora slightly and broadly fuscous toward the tip, the tibiæ still less so toward the base. Abdomen rather short and full, with convex sides, dark castaneous, more or less blackish toward the sides, very delicately and transversely striate, more or less pilose, the lateral tubercles rather prominent. Forceps more than half as long as the abdomen, depressed cylindrical, simple, straight, attingent, incurved at the tip, and very sharply pointed, sparsely pilose throughout, the inner edge very finely denticulate. Length of body, 8 mm.; of tegmina and wings, 3 mm.; of hind femora, 2.75 mm.; of forceps, 2.4 mm. 2 ♀. Mexico, Sumichrast. (Smithsonian Institution.)

57. *Forficula exilis*. Head mahogany brown, smooth, the middle of it slightly tumid, with a pair of broad shallow oblique sulcations between the antennæ, meeting each other above and forming a \wedge ; labrum dusky; palpi brownish luteous, paler toward tip; basal joint of antennæ mahogany brown; remaining joints (at least as far as the ninth) reddish brown. Pronotum luteous, rufous in the middle, quadrate, slightly longer than broad, scarcely broader posteriorly, the sides straight, the posterior border gently convex, the surface smooth, flat, a little depressed excepting down the middle, which bears an impressed line, fading posteriorly. Tegmina nearly twice as long as the pronotum, luteous, duskily bordered on the inner side; wings scarcely extending beyond the tegmina, similarly colored; legs luteous, the femora slightly tinged with brown. Abdomen very slender, the sides scarcely convex, very dark mahogany brown, the surface minutely and sparsely punctulate; last segment quadrate, the posterior area deeply transversely depressed in the middle, with a slight short longitudinal impressed median line at the anterior limit of the same, preceded by a pair of submedian, almost equally short, very faintly impressed lines; the depression is bordered laterally next base of either arm of forceps by a blunt tubercle. Forceps rather simple, as long as the last four or five dorsal segments, rather broad at base, narrowing suddenly beyond, and then depressed cylindrical, slender and tapering, gently incurved and finely pointed; inner edge slightly tuberculato-denticulate, especially on the basal half, a slightly larger tubercle at the middle of the apical half. Pygidium a pointed flattened triangular lamina. Length of body, 10.5 mm.; of tegmina and wings, 2.5 mm.; of hind femora, 2.1 mm.; of forceps, 3.75 mm. 1 ♂. Texas; received from Mr. P. R. Uhler.

58. *Forficula aculeata*. Head uniform rather dark castaneous, smooth, gently tumid, with a pair of oblique, slightly bent impressions between the antennæ; palpi luteous; antennæ 12-jointed, dark brown, becoming paler away from the base, the extreme tips of some of the basal joints marked with blackish. Pronotum rather dark castaneous, the sides transparent and nearly colorless, quadrate, noticeably longer than broad, the sides parallel and straight, the hind border a little convex with rounded posterior angles, the surface smooth, nearly flat, with a broad and very shallow transverse postmedian impression, and a slight impressed longitudinal line about half as long as the pronotum, starting from a little behind the front edge. Tegmina nearly twice as long as the pronotum, squarely

docked at the tip, smooth, luteous, with the inner half, or nearly as much, obscured more or less heavily with fuscous. Wings wanting. Legs uniform luteous. Abdomen dark mahogany brown, sometimes varying to black, with the sides of the second and third segments blackish, the lateral plications of the third segment rather prominent, all the segments but the last finely punctate, the last as *F. californica* is described by Dohrn. Forceps of female rather more than half as long as the abdomen, simple, slender, attingent, straight to the incurved tip, the inner edge quite straight to the tip, minutely denticulate; those of male about three-quarters as long as the abdomen, the basal fourth moderately stout, triquetral, distant, directed slightly outward and bent at the very base downward, the remainder bent inward, but continuing the downward direction until near the horizontal tip, cylindrical, slender, nearly equal, until a little beyond the middle of the outer half, where at the emission of an inner rather stout tooth, it tapers to a fine point, begins an inward curve and takes on the horizontal direction; the inner side is edged, at base laminate, and rather finely denticulato-tuberculate. Pygidium of ♀ stout, bluntly trifid, of ♂ very slender, acicular, half as long as the last segment. Length of body, 10.75 mm.; of antennæ, 7.5 mm.; of tegmina, 3.1 mm.; of hind femora, 2.8 mm.; of forceps, ♂, 5 mm., ♀, 3.5 mm. 3 ♂, 5 ♀ from N. York (Coll. Uhler), Northern Illinois (Kennicott), Southern Michigan (Prof. M. Miles, No. 124). A single specimen is marked Cuba?

This species is closely allied to *F. californica* Dohrn, judging from the description, but differs from it in the total want of wings, and the structure of the male forceps. It appears also to be nearly allied to *F. pulchella* Serv., a species I do not know, but the absence of wings in our species prevents its reference to it. *F. pulchella* is possibly a *Labia*.

59. *Labia rotundata*. Head dark mahogany brown, darkest below, but the labrum lighter, uniformly and slightly tumid; palpi reddish brown, darkest on the apical half; antennæ more than 10-jointed, the basal joint reddish brown, beyond a little dusker, the whole briefly pilose. Pronotum nearly as broad as the head, reddish luteous, paler at the sides, scarcely longer than broad, the posterior angles very broadly rounded, but the hind margin otherwise straight; it is depressed excepting in the middle of the front half, on which is a finely impressed median line; lateral edges almost marginate. Tegmina about half as long again as the pronotum, dull brownish

luteous, squarely docked at tip; wings extending but a little beyond the tegmina, blackish. Legs luteous. Abdomen very broadly expanded, the sides unusually convex, blackish brown above, the apical joints and whole under surface mahogany brown; surface very finely longitudinally striate. Pygidium large, truncate, conical; forceps scarcely one-third the length of the abdomen, simple, widely separated, cylindrical, straight, incurved at tip, finely pointed, briefly pilose, wholly unarmed. Length of body, 6 mm.; of (ten joints of the) antennæ, 2.75 mm.; of tegmina and wings, 2 mm.; of hind femora, 1.6 mm.; of forceps, 1.5 mm. 1 ♀. Mexico.

60. *Labia brunnea*. Head rather dark castaneous, smooth, slightly tumid, with two faint, broad, short, shallow, nearly longitudinal impressions between the antennæ; mouth parts luteo-castaneous. Antennæ 11-jointed, luteo-castaneous. Pronotum nearly as broad as the head, scarcely broader posteriorly than anteriorly, of equal length and breadth, quadrate, the posterior angles rounded, and the hind border otherwise straight, slightly tumid anteriorly, with a slight median impressed line, which posteriorly is supplanted by a pair of closely approximated similar lines, rather dark castaneous, broadly bordered on the sides and hind margin with luteous, which is separated from the castaneous by a blackish fuscous belt. Tegmina castaneo-fuscous, darkest next the base, fully half as long again as the pronotum, squarely docked at the tip; wings rudimentary, useless. Legs castaneo-luteous, the femora slightly infuscated. Abdomen dark castaneous, the posterior borders of the segments marked with blackish, the sides of the abdomen somewhat convex, the lateral plications of second and third segments rather slight, the surface very finely and faintly punctulate. Pygidium of male very coarse and stout, bluntly conical and truncate. Forceps of male more than half as long as the abdomen, simple, trigono-cylindrical, a little depressed, rather stout, horizontal, gently incurved, with a basal and preapical slight triangular depressed pointed tooth on the inner edge; the apex bluntly pointed, depressed. Forceps of female (pupa) about one-third as long as the abdomen, simple, straight on the middle half, but as a whole slightly sinuate, horizontal, depressed, but broadly ridged above, the inner edge delicately toothed, fading out toward tip. Length of body, 6.5 mm.; of antennæ, 2.8 mm.; of tegmina, 1.5 mm.; of hind femora, 1.5 mm.; of forceps, ♂, 2.25 mm., ♀ (pupa), 1.6 mm. 1 ♂, 1 ♀. Cuba (P. R. Uhler).